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I CLAIM:

1. A mining machine comprising, a mobile body portion, a boom member pivotally secured to said body portion and extending forwardly therefrom, a drum member rotatably mounted on the front of said boom member transversely to said mobile body portion, cutting elements extending from said drum member, a continuous conveyor extending substantially the length of said body portion, said continuous conveyor having a front end portion supported by said boom member for pivotal movement therewith, said conveyor front end portion extending closely adjacent to said drum member, and drive means for rotating said drum member in a direction to dislodge material from a mine face and direct the dislodged material by rotation of said drum member over said drum member and rearwardly onto said conveyor front end portion.

2. A mining machine as set forth in claim 1 in which, said boom member includes a trough portion positioned rearwardly of said drum member, said trough portion having a material receiving end extending the length of said drum member, and said conveyor front end portion positioned in said trough portion to receive the dislodged material and convey the dislodged material from said trough portion rearwardly on said boom member and said mobile body portion.

3. A mining machine as set forth in claim 1 in which, said boom member includes a hopper formed by a pair of inclined sidewalls extending upwardly from the opposite sides of said conveyor front end portion, said inclined sidewalls forming with said conveyor front end portion a material receiving bin,

and said material receiving bin having a receiving end extending the length of said drum member and adapted to receive dislodged material conveyed over said drum member and to direct the dislodged material down said inclined walls onto said conveyor front end portion.

4. A mining machine as set forth in claim 3 in which, said material receiving bin is pivotal with said drum member as said boom member is pivoted to make a shear cut in the mine face by said drum member.

5. A mining machine as set forth in claim 1 in which, said drum member is operable to rotate in a preselected direction to dislodge material from a mine face in a direction upwardly from the mine floor and over said drum member onto said conveyor front end portion.

6. A mining machine as set forth in claim 1 in which, said conveyor includes a discharge end portion extending rearwardly from said mobile body portion, said conveyor being continuous in length from said front end portion to said discharge end portion, and said front end portion being vertically pivotal relative to said discharge end portion with said boom member as said drum member is raised and lowered.

7. A mining machine as set forth in claim 1 which includes, means for confining dislodged material deposited on the mine floor forwardly of said conveyor front end portion, said means for confining dislodged material extending transversely relative to said conveyor front end portion and positioned rearwardly of said drum member, and said means for confining dislodged material being connected to said boom member to remain in contact with the mine floor and follow the contour of the mine floor as the mining machine moves in a mine.

8. A mining machine as set forth in claim 1 which includes, material breaker means positioned on said mobile body portion and associated with said continuous conveyor for breaking up the dislodged material conveyed rearwardly on said mobile body portion.

9. A mining machine comprising, a mobile body portion, a boom member pivotally secured to said body portion and extending forwardly therefrom, a material dislodging device mounted on the front of said boom member, cutting elements extending from said material dislodging device, said boom member including a trough portion positioned rearwardly of said material dislodging device, said trough portion having a material receiving end extending the length of said material dislodging device, a continuous conveyor extending substantially the length of said mobile body portion, said continuous conveyor having a receiving end portion positioned in said trough portion and a discharge end portion, said conveyor receiving end portion extending closely adjacent to said material dislodging device to receive mined material dislodged by said

material dislodging device and deposited into said trough portion material receiving end and said continuous conveyor being operable to convey the dislodged material rearwardly through said trough portion to said discharge end portion.

10. A mining machine as set forth in claim 9 in which, said trough portion has a material receiving end extending the length of said material dislodging device, and said conveyor receiving end portion forming a floor of said trough portion to receive the dislodged material and convey the dislodged material in said trough portion rearwardly on said boom member.

11. A mining machine as set forth in claim 9 in which, said trough portion includes a pair of sidewalls extending upwardly from the opposite sides of said conveyor receiving end portion, said sidewalls forming with said conveyor receiving end portion a material receiving bin, and said material receiving bin being adapted to receive dislodged material conveyed over said material dislodging device and to direct the dislodged material down said inclined sidewalls onto said conveyor receiving end portion.

12. A mining machine as set forth in claim 11 in which, said material receiving bin is pivotal with said material dislodging device as said boom member is pivoted to make a shear cut in the mine face by said material dislodging device.

13. A mining machine as set forth in claim 9 in which, said material dislodging device includes a cutter drum member operable to rotate in a preselected direction and dislodge material from a mine face in a direction upwardly from the mine floor and over said drum member into said trough.

14. A mining machine as set forth in claim 9 in which, said conveyor receiving end portion is vertically pivotal relative to said discharge end portion with said boom member as said material dislodging device is raised and lowered.

15. A mining machine as set forth in claim 9 which includes, means for confining dislodged material deposited on the mine floor forwardly of said conveyor receiving end portion, said means for confining dislodged material extending transversely relative to said conveyor receiving end portion and positioned rearwardly of said material dislodging device, and said means for confining dislodged material being connected to said boom member to remain in contact with the mine floor and follow the contour of the mine floor as the mining machine moves in a mine.

16. A mining machine as set forth in claim 9 which includes, material breaker means positioned on said mobile body portion and associated with said continuous conveyor for breaking up the dislodged material conveyed rearwardly on said mobile body portion.

17. A method of dislodging solid material from a mine face comprising the steps of, rotatably supporting a material dislodging device at the front end of a mining machine, positioning the material dislodging device opposite a mine face, sumping the material dislodging device into contact with the mine face, pivoting the material dislodging device through an arcuate path between the mine roof and floor to dislodge solid material from the mine face, rotating the material dislodging device in a direction to convey the dislodged material over the material dislodging device and rearwardly thereof, feeding the dislodged material onto a conveyor positioned rearwardly of the material dislodging device, and transporting the dislodged material rearwardly from the material dislodging device on the mining machine.

18. A method of dislodging solid material from a mine face as set forth in claim 17 which includes, depositing the dislodged material into a material receiving bin extending rearwardly from the material dislodging device, and directing the dislodged material from the material receiving bin onto the conveyor.

19. A method of dislodging solid material from a mine face as set forth in claim 17 which includes, rotatably supporting the material dislodging device on the front of the boom member, positioning a conveyor on the boom member to extend rearwardly from the material dislodging device, pivoting the boom member upwardly from the mine floor so that the material dislodging device dislodges material from the mine face upwardly from the mine floor, directing the dislodged material upwardly and over the material dislodging device, and feeding the dislodged material into a trough having sidewalls extending upwardly on opposite sides of the conveyor so that the material in the trough is directed onto the conveyor.

20. A method of dislodging solid material from a mine face as set forth in claim 17 which includes, confining portions of the dislodged material not fed onto the conveyor forward of the conveyor on the mine floor and in the rotating path of the material dislodging device for pick up and conveyance over the material dislodging device onto the conveyor.

21. A mining machine substantially as herein described with reference to the accompanying drawings.

22. A method of dislodging solid material from a mine face, substantially as herein described with reference to the accompanying drawings.

DATED THIS THE 26TH FEBRUARY 1982


SPOOR AND FISHER
PATENT ATTORNEYS FOR THE APPLICANT